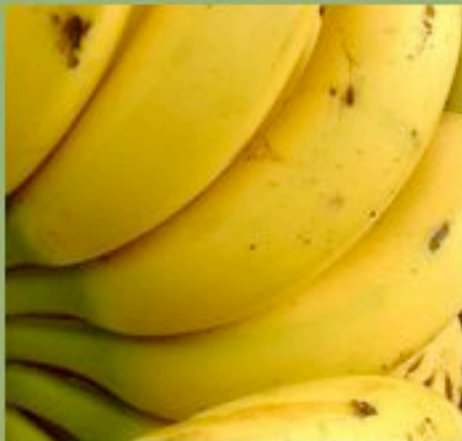


MIT's Eau d'e coli iGEM 2006



By: Robert Ovadia



Background

What makes a scent?

An enzyme that converts something that DOESN'T smell, into something that DOES smell.



JMT

jasmine



CCMT

cinnamon



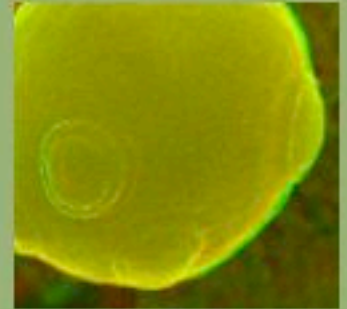
BAMT

fresh / floral



BSMT

wintergreen



ATF1

banana

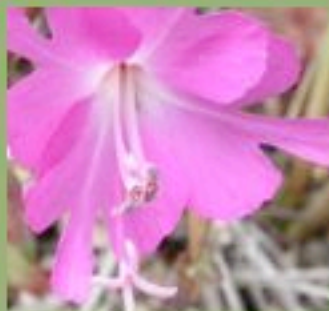
Background

System Design

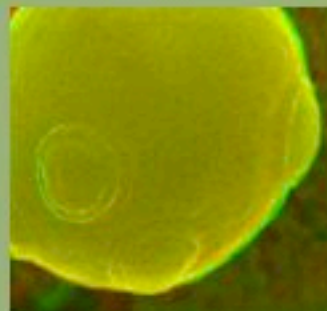
Results

What I Liked and Disliked

Background



BSMT
wintergreen



ATF1
banana

Background

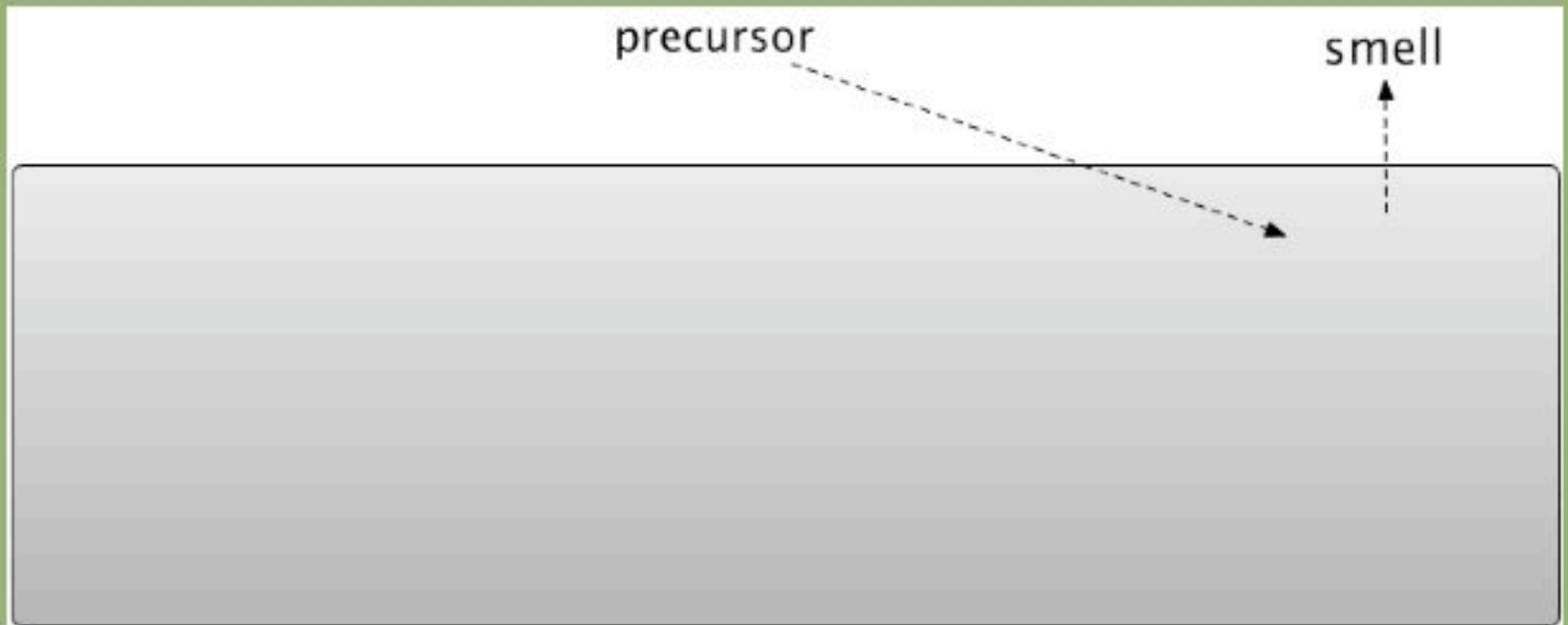
System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

Results

What I Liked and Disliked

System Design



Background

System Design

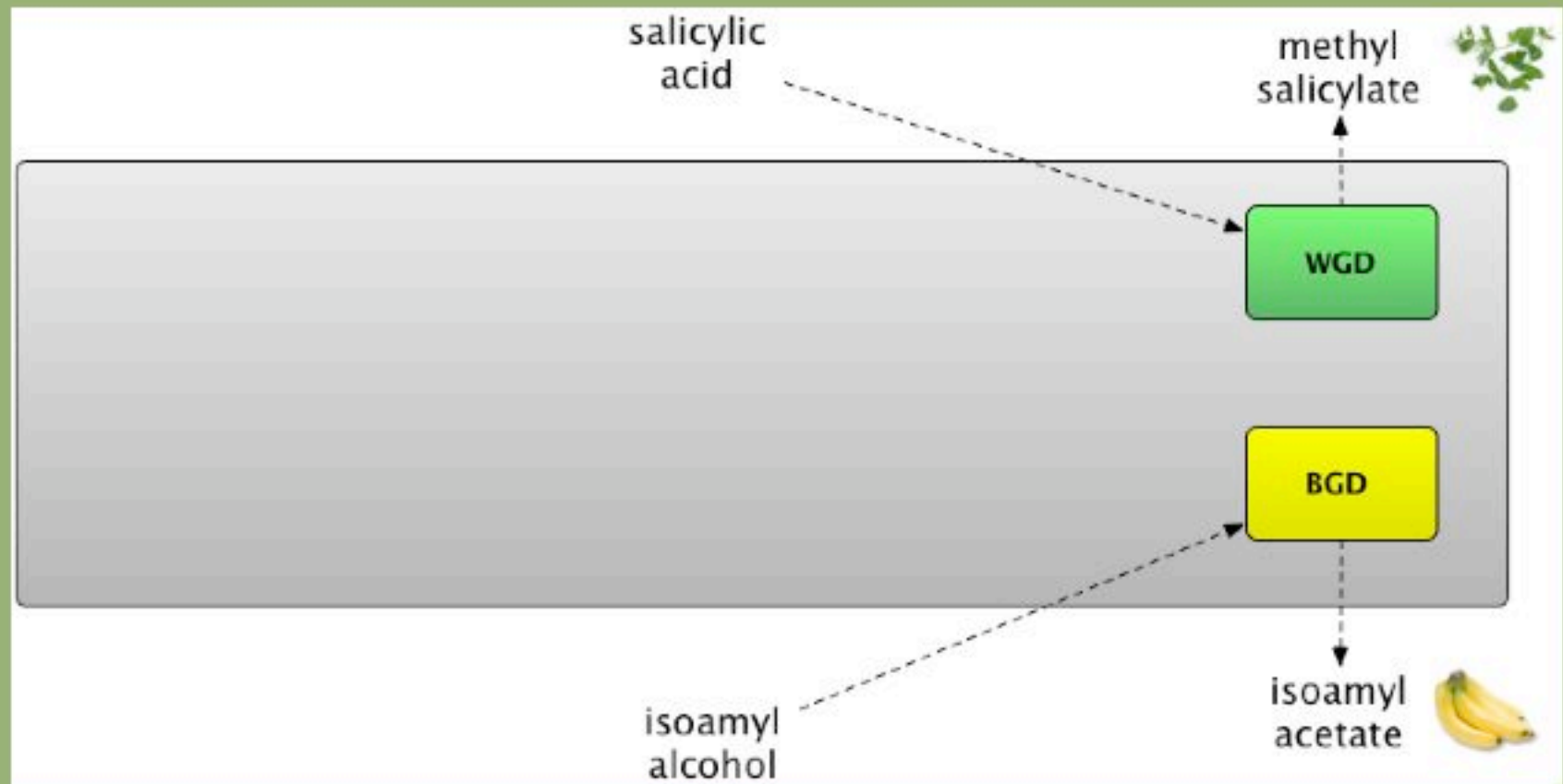
- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

Results

What I Liked and Disliked

System Design

Simple System



Background

System Design

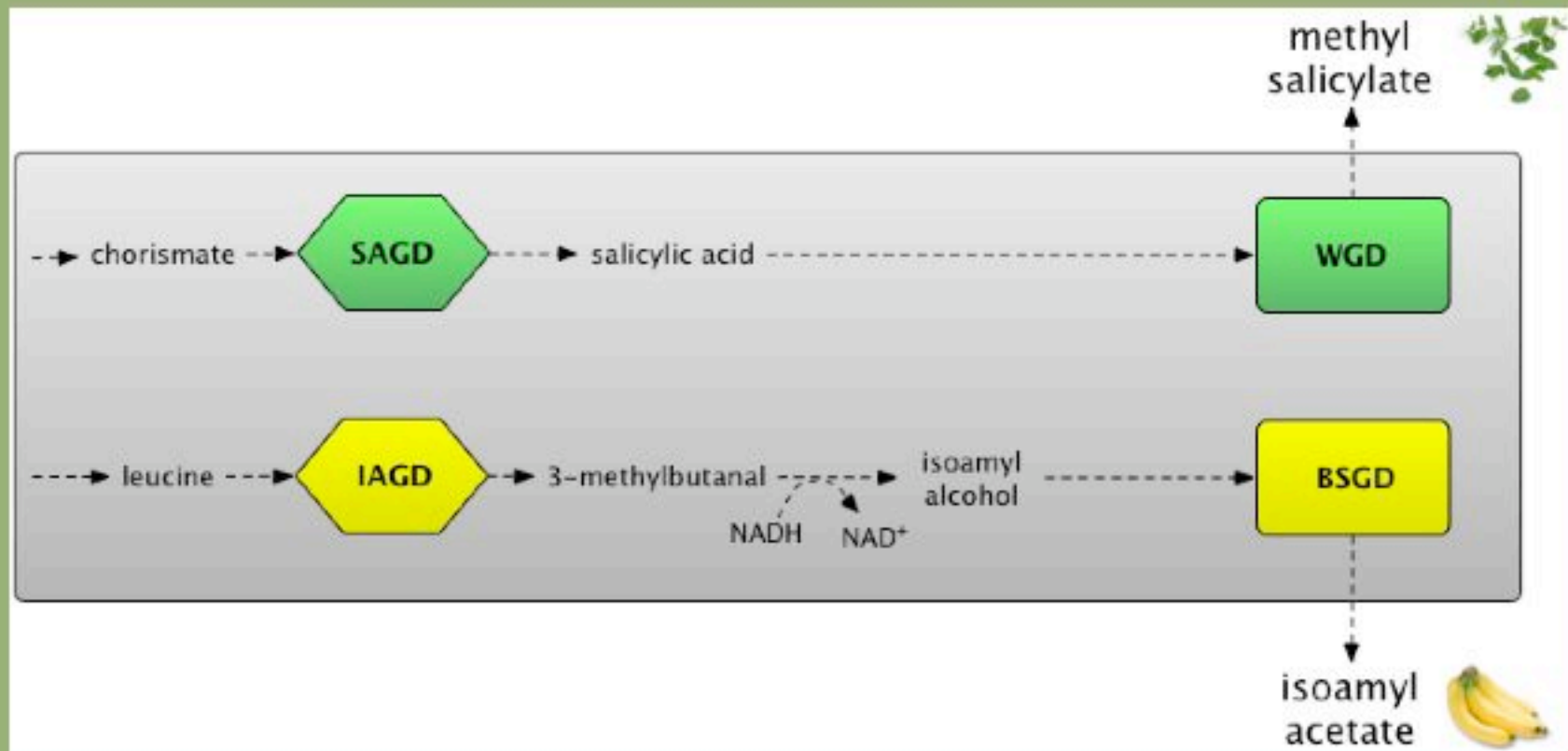
- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

Results

What I Liked and Disliked

System Design

Complex System



Background

System Design

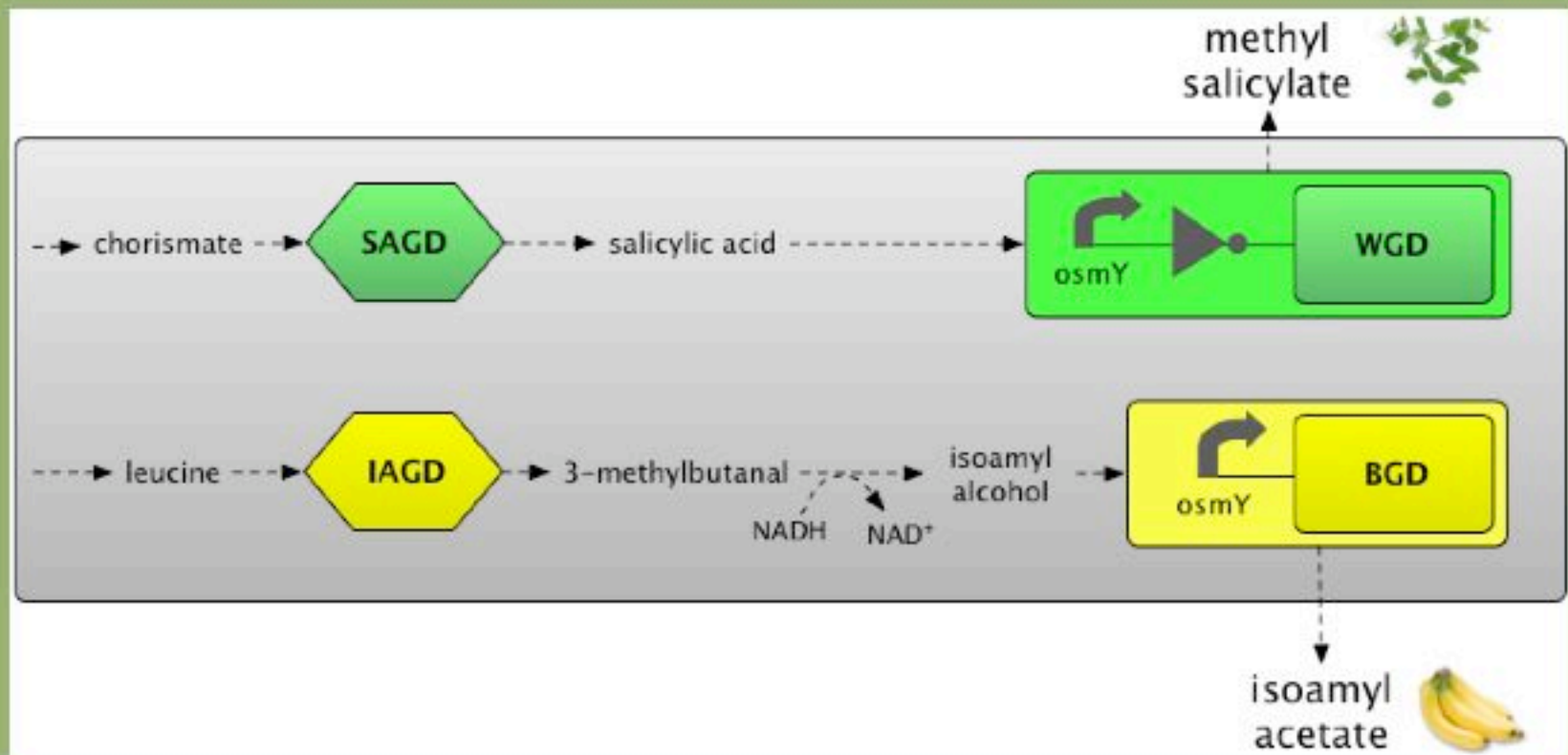
- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

Results

What I Liked and Disliked

System Design

More Complex System



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

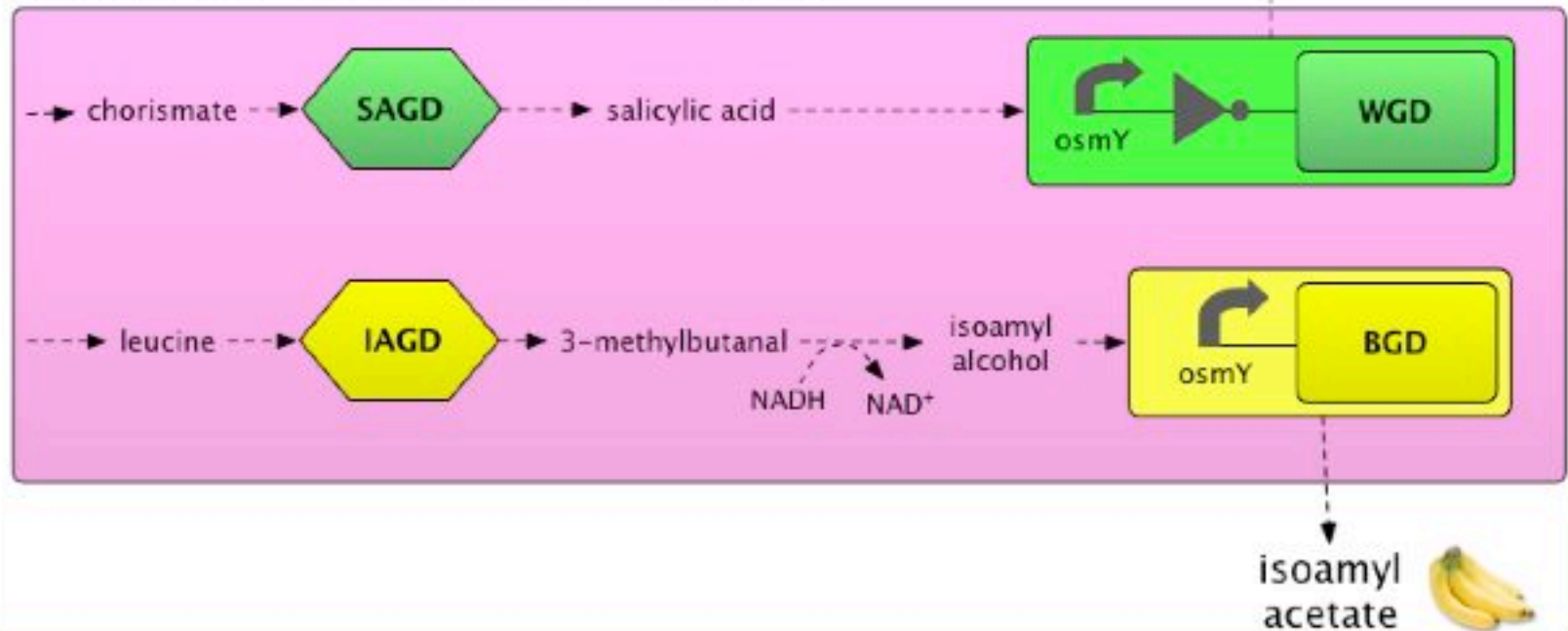
Results

What I Liked and Disliked

System Design

Complete System

indole deficient $tnaA5^-$ chassis



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

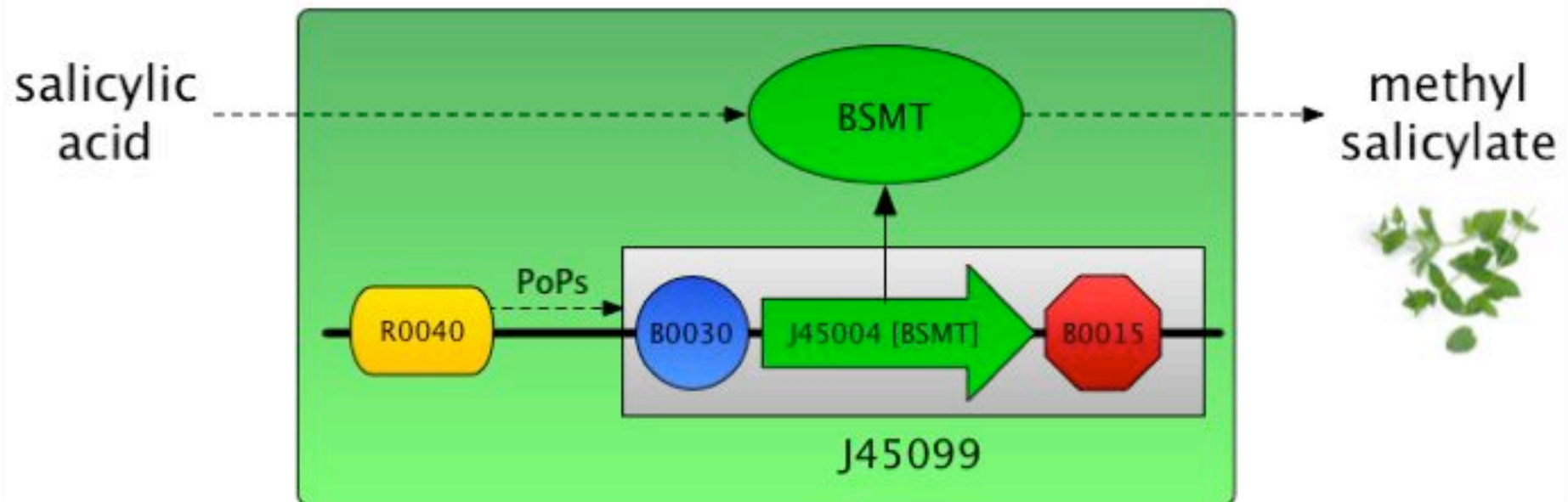
Results

What I Liked and Disliked

System Design

Wintergreen Generating Device (WGD)

J45100 – Wintergreen Generating Device (WGD)



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

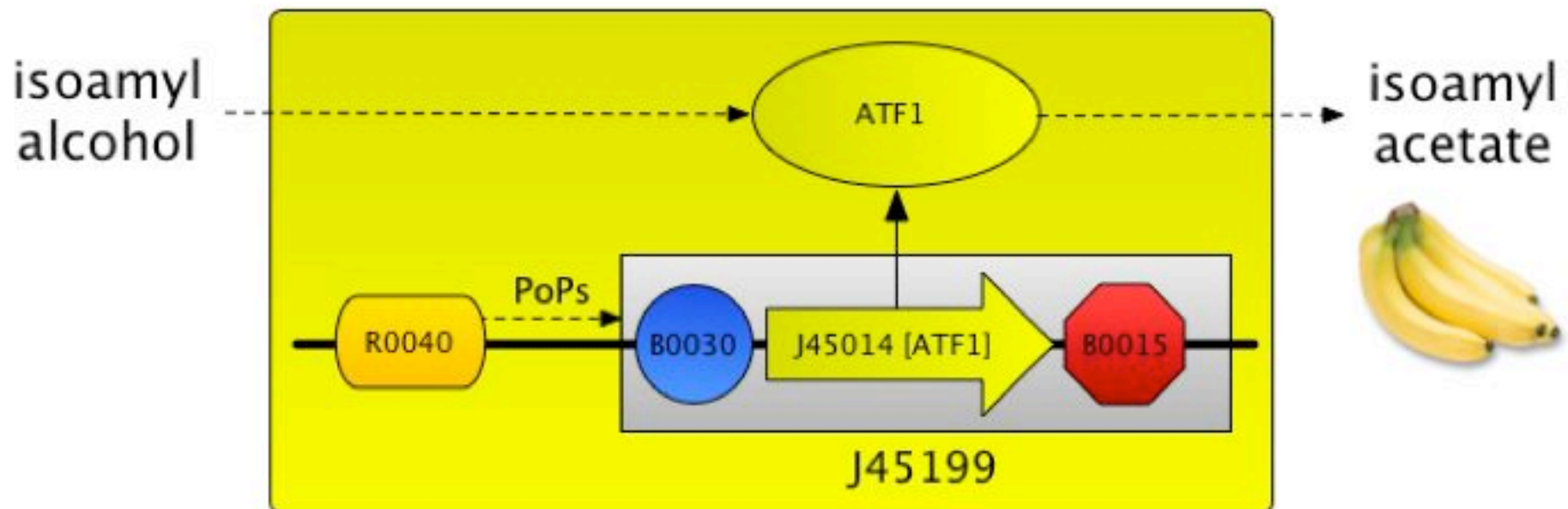
Results

What I Liked and Disliked

System Design

Banana Generating Device (BGD)

J45200 – Banana Generating Device (BGD)



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

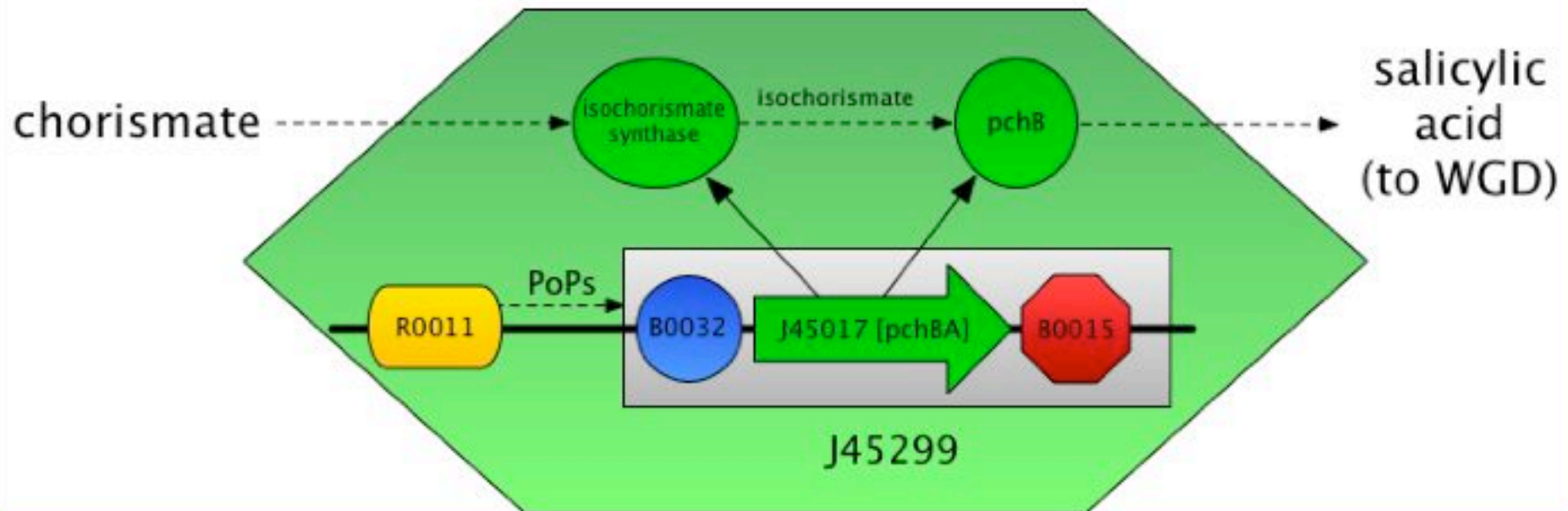
Results

What I Liked and Disliked

System Design

Salicylic Acid Generating Device (SAGD)

J45300 – Salicylic Acid Generating Device (SAGD):



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

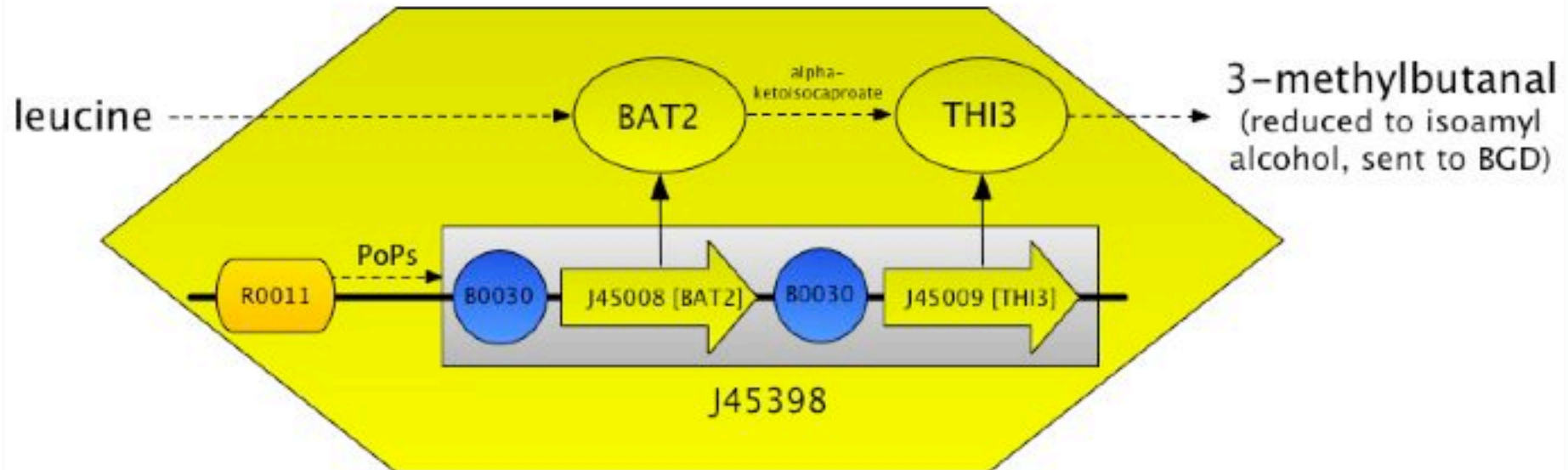
Results

What I Liked and Disliked

System Design

Isoamyl Alcohol Generating Device (IAGD)

J45400 – Isoamyl Alcohol Generating Device (IAGD):



Background

System Design

- WGD
- BGD
- SAGD
- IAGD
- pOsmY + Inverter

Results

What I Liked and Disliked

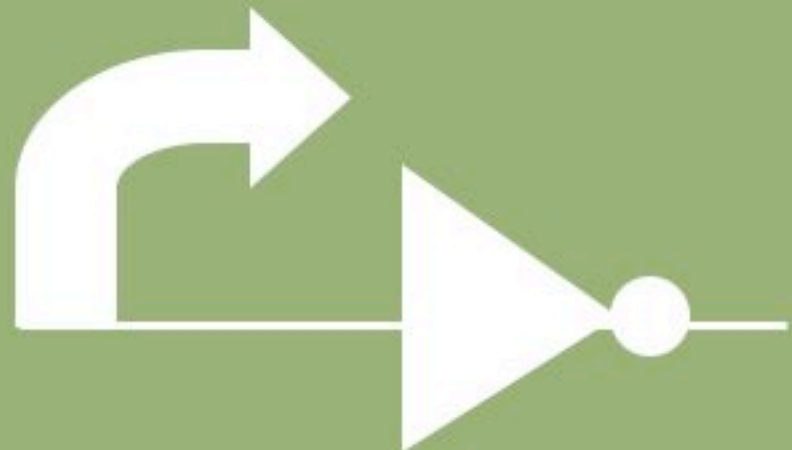
System Design

OsmY + Inverter

osmY: active in stationary phase & under high osmotic pressure conditions



osmY

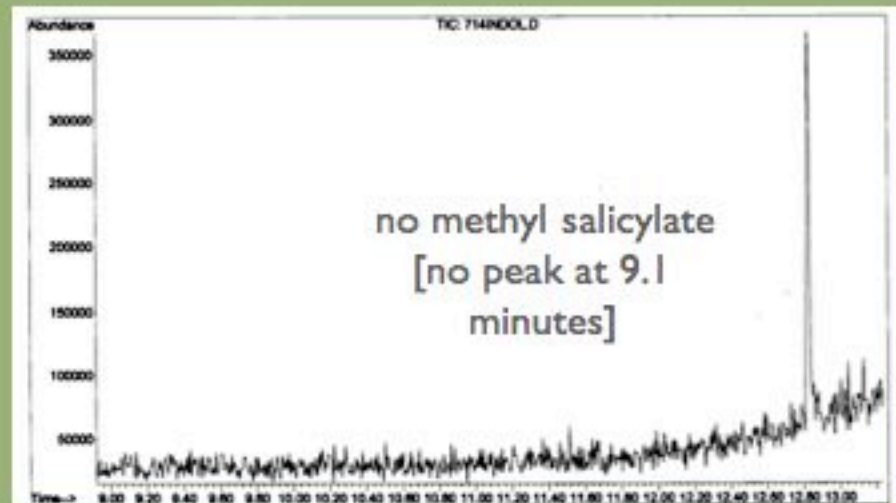


osmY + inverter

- WGD
- Growth Dependent Regulation
- Growth Dependent Regulation + Inverter
- Indole Free Bacteria
- Smell Test

What I Liked and Disliked

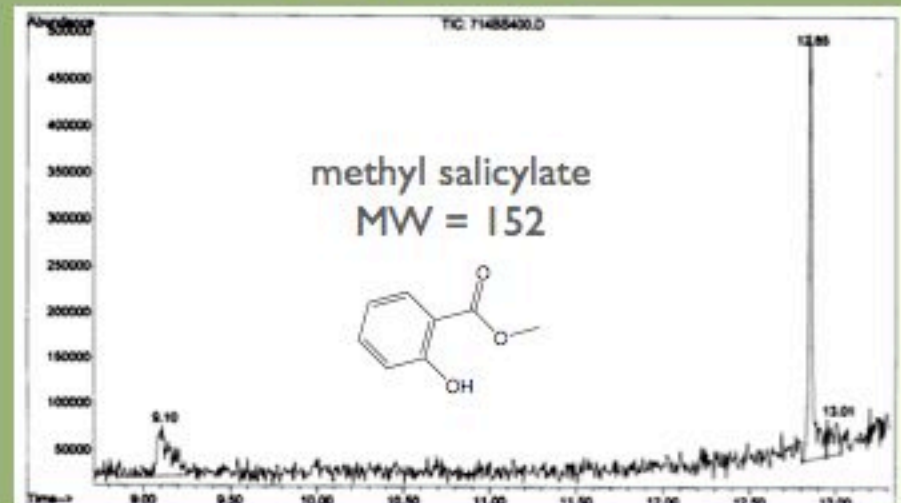
E. coli



Results

Wintergreen Generating Device

E. coli + precursor
(SA) + WGD



Background

System Design

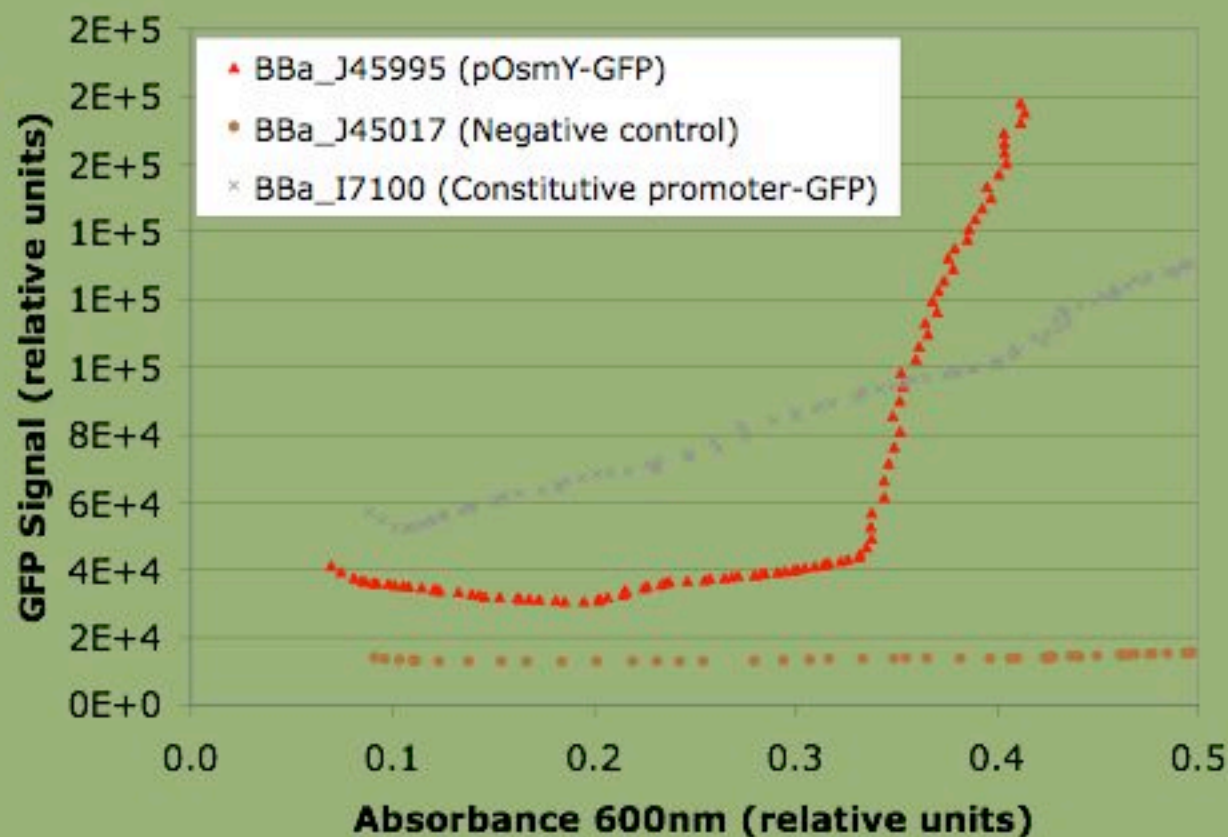
Results

- WGD
- Growth Dependent Regulation
- Growth Dependent Regulation + Inverter
- Indole Free Bacteria
- Smell Test

What I Liked and Disliked

Results

Growth Dependent Regulation



Background

System Design

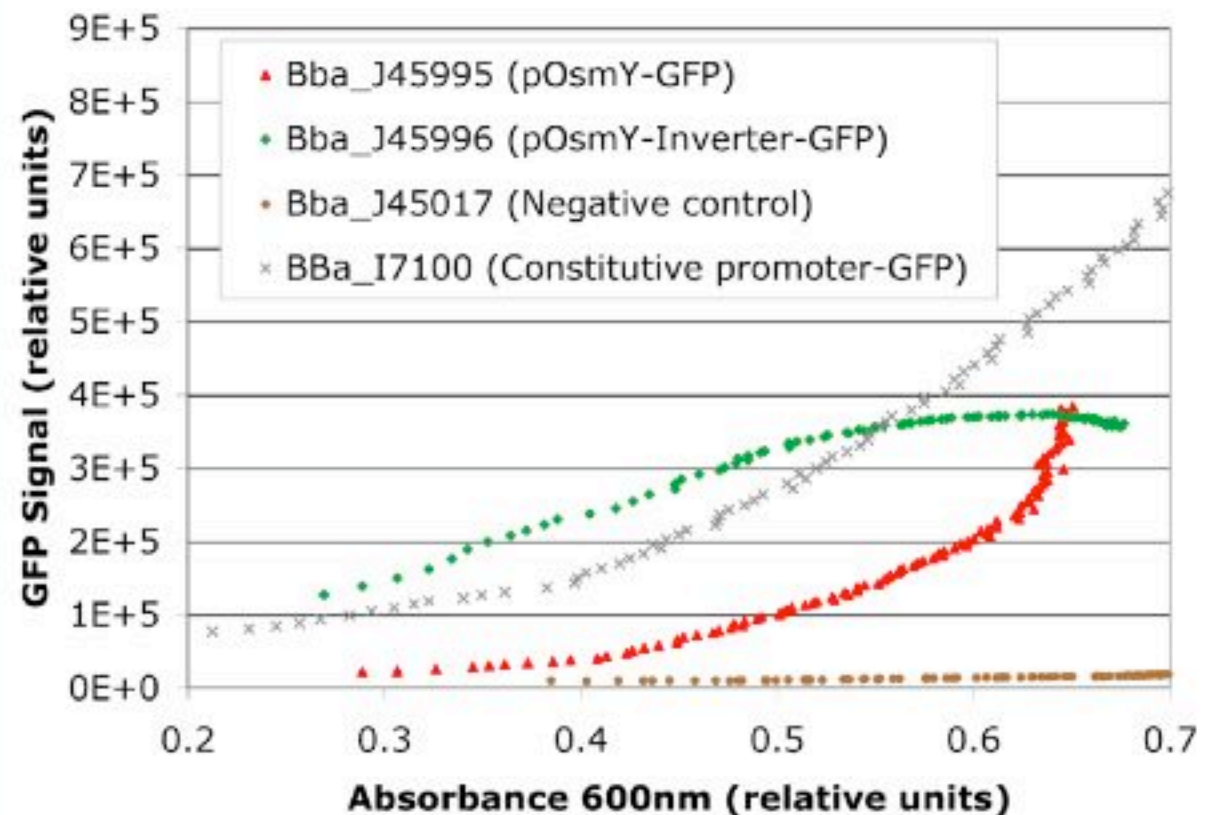
Results

- WGD
- Growth Dependent Regulation
- Growth Dependent Regulation + Inverter
- Indole Free Bacteria
- Smell Test

What I Liked and Disliked

Results

Growth Dependent Regulation + Inverter



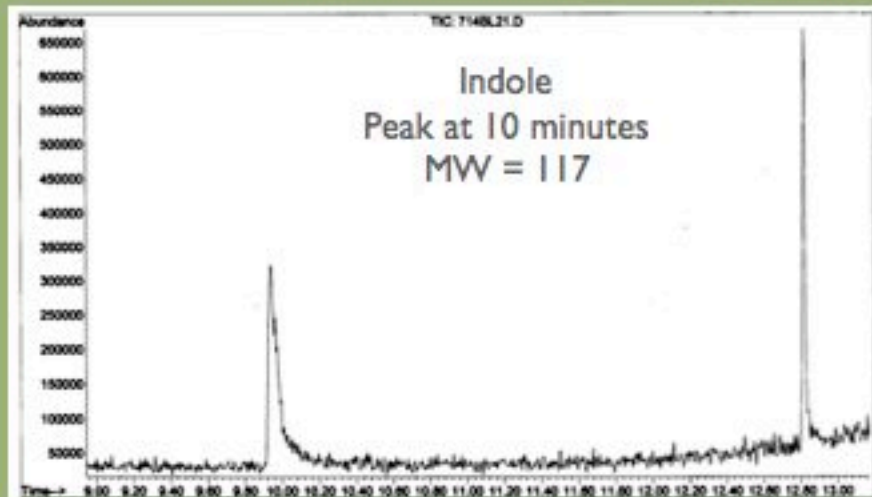
- WGD
- Growth Dependent Regulation
- Growth Dependent Regulation + Inverter
- Indole-Free Bacteria
- Smell Test

What I Liked and Disliked

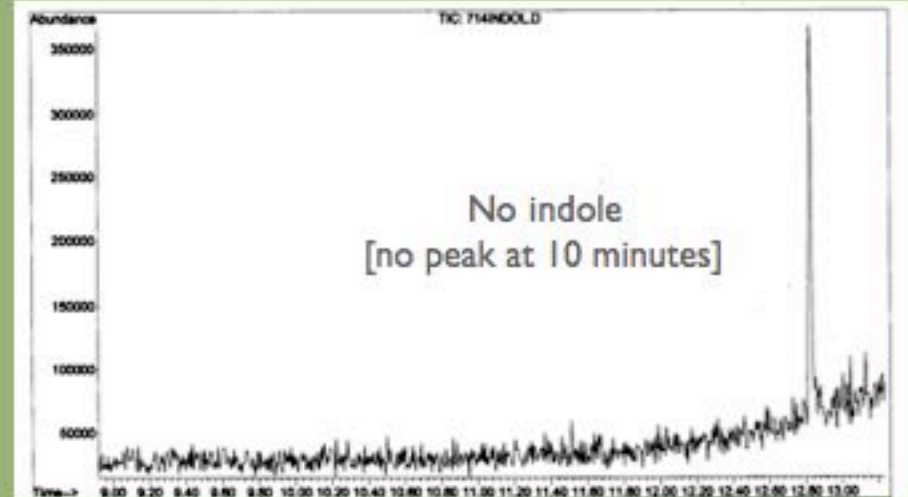
Results

Indole-Free Bacteria

wild type *E. coli*



chassis: *tnaA5⁻ E. coli*



Background

System Design

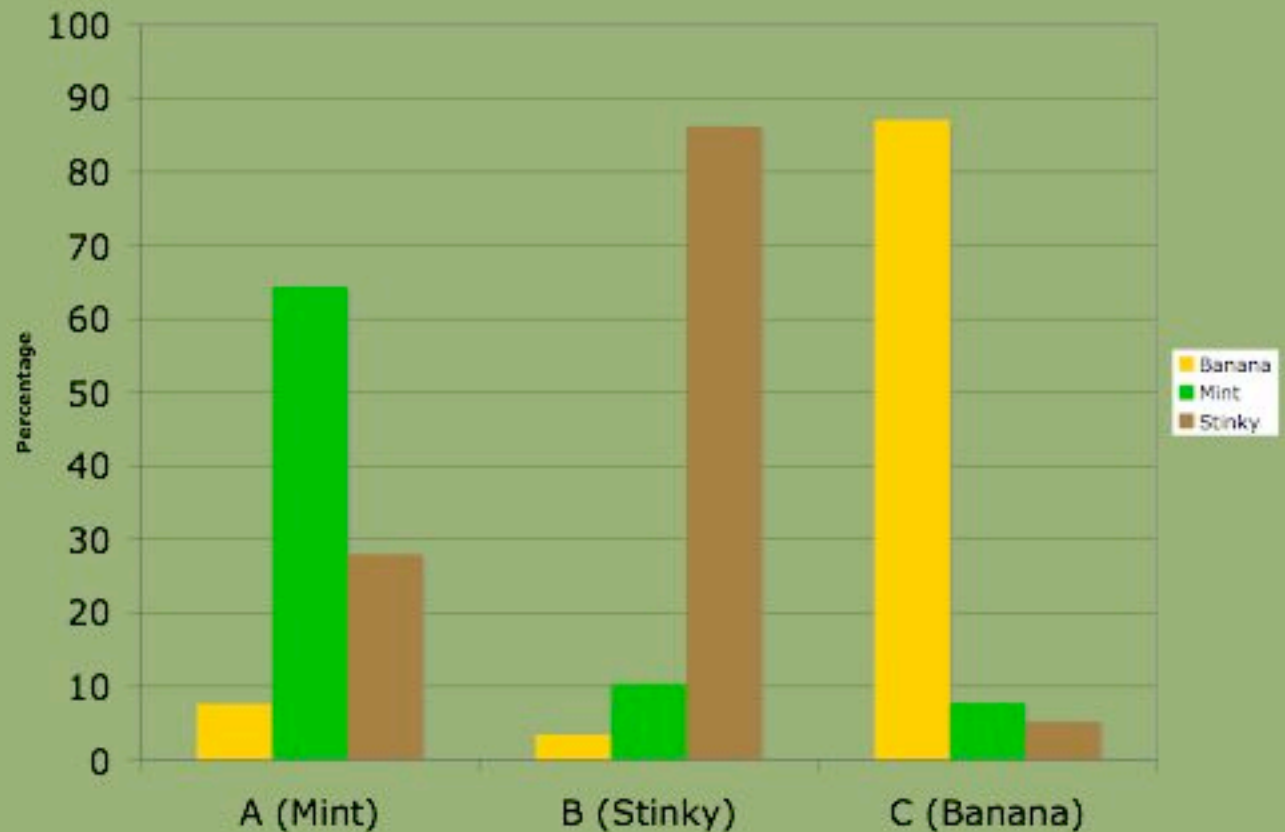
Results

- WGD
- Growth Dependent Regulation
- Growth Dependent Regulation + Inverter
- Indole-Free Bacteria
- Smell Test

What I Liked and Disliked

Results

Smell Test



What I Liked

Likes

- Able to change a simple experiment into a more complicated experiment
- They looked at what MORE there was to do; took their experiment to the 'next level' EX: Simple System to Complete System
- Got the audience involved, EX: Smell test
- Easy to comprehend
- Perfect example of a successful iGEM project

Sources

MIT's iGEM PPT Presentation 2006.ppt (PowerPoint)

MIT's iGEM PPT Presentation 2006.mov (Movie)

<http://openwetware.org/wiki/IGEM:MIT/2006>